

SCIENCE POPULARIZATION AND PUBLIC OUTREACH ACTIVITIES: RUSSIAN EXPERIENCE

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Abstract

Science popularization and public outreach activities form the essential social function of the education. The educational products that are provided free of charge or for the low price for the customers are the main resource of implementation of the principles of Lifelong Learning for different income and age groups of population. It seems clear that the leading universities should act as leaders in the field of science popularization and development of public outreach activities. At the same time lots of other providers of popular-scientific services try to form intellectual content, organize free lectures and other events to popularize scientific and cultural values on the basis of modern electronic technologies. Among the most popular issues are so called soft skills (Communication, Leadership, Conflict Solving, etc.) that initially were included in some special disciplines and programs oriented on high-level managers (as Organizational Behavior) but further became attractive to individual customers irrespective of their professional status. Individual Financial planning and Financial Literacy are also the subjects that move from the special professional areas to the spheres of interest of common people. So, it looks crucial to study modern experience, supply and trends of development of the educational products in this sphere. The article discusses the modern Russian experience on the basis of the results of the original research conducted by the authors from Lomonosov Moscow State University (Moscow, Russia).

The development of the principles of Lifelong Learning and Science popularization in the form of educational products with open access helps to reach important socio-economic goals for Russian people: popularization of Science and highlighting of population, particularly young people towards scientific activities; informing people in the popular form about the scientific achievements, new products and technologies in industry, economics, finance, social communication, etc.

The analysis of the popular-scientific educational product is based on the authors' prerequisites that this product is massive, oriented on people of different age, professions, and hobbies. It is important to define the utilities and motives that push the learners towards attending these events or using educational content as well as to study the characteristics of the demand of different groups of customers. To solve this task the authors conducted the cabinet study and a survey of the random group of respondents. The main providers of popular-scientific education and their products were analyzed. The authors have divided all massive of popular-scientific educational products into 6 main groups: universities, research institutions, foundations, museums, libraries, "new forms". In each group several subjects were defined and each subject was evaluated according to the indicators, including: subject of educational market and its communication channels with the customers; essence of educational content; lecturers, etc.

As a result of the study there were determined the leaders in the sphere of popularization of science in Russian education, indicators of the competitive advantages of providers from the points of content and forms of provision of their services and products as well as the placement of educational providers in Russia. The perspective trends of development of Lifelong Learning technologies in the sphere of Science popularization were defined.

Keywords: Science popularization, Lifelong learning, University education, Russian education.

1 INTRODUCTION

Science popularization and public outreach activities form the essential social function of the education. The educational products that are provided free of charge or for the low price for the customers are the main resource of implementation of the principles of Lifelong Learning for different income and age groups of population. It seems clear that the leading universities should act as leaders in the field of science popularization and development of public outreach activities. At the same time lots of other providers of popular-scientific services try to form intellectual content, organize

free lectures and other events to popularize scientific and cultural values on the basis of modern electronic technologies. Among the most popular issues are so called soft skills (Communication, Leadership, Conflict Solving, etc.) that initially were included in some special disciplines and programs oriented on high-level managers (as Organizational Behavior) but further became attractive to individual customers irrespective of their professional status. Individual Financial planning and Financial Literacy are also the subjects that move from the special professional areas to the spheres of interest of common people. So, it looks crucial to study modern experience, supply and trends of development of the educational products in the sphere of science popularization. The article discusses the modern Russian experience on the basis of the results of the original research that was conducted by the authors from Lomonosov Moscow State University (Moscow, Russia) in 2017.

2 METHODOLOGY

The analysis of the popular-scientific educational product is based on the authors' prerequisites that this product is massive, oriented on people of different age, professions, and hobbies. It is important to define the utilities and motives that push the learners towards attending these events or using educational content as well as to study the characteristics of the demand of different groups of customers. To solve these tasks the authors conducted the cabinet study of the main providers of popular-scientific education and their products and a survey of the random group of respondents. The overall objective was to define:

- The main characteristics of the customers, their segmentation and qualitative parameters of the demand;
- The leading providers of the educational products in the form of Scientific-popular lectures (SPL) on the Russian market and the specific features of their supply;
- Trends of the development of SPL in the modern educational space.

Object of the Study. SPL is an open educational event, presentation of the material in any field of science, for an audience that has the corresponding cultural and educational needs. The purpose of this educational social event is the popularization of science and creating prerequisites and conditions for self-realization of the individuals as well as the growth of new knowledge with further application in the professional, public activities and private life.

The main characteristics of the SPL are:

- belonging to the field of science [1] (natural, socio-humanitarian, technical, formal),
- the objectivity and validity of the information provided,
- different levels of preparedness of the audience (the absence of common professional language and conceptual scientific apparatus in the audience)
- voluntary attendance (caused by the personal need of the participant)
- unlimited access (available to public)
- social orientation (aimed at teaching the public the arts and sciences)
- self-sufficiency and finality (does not require studying, checking, reading additional literature).

3 RESULTS





3.1 The target audience of popular science educational products

In order to analyze today's consumers of popular science products and their demand, it is necessary to understand the processes that occur in this area in the modern world and affect human behavior and choice in the educational space. The authors of the study consider it necessary to rely on the understanding of the following key trends: liberalization, informatization, personification, DIY (Do it yourself) (Tab.1).

Currently, it is quite common for scientific and expert community to talk about the fact that we live in the era of the "fourth industrial revolution" [2]. The world is changing rapidly and the changes relate to all areas of human life, including education. This affects not only what people study, but how they learn. We can observe the significant global trends of liberalization of education, digitalization, and

personification. Education does not end at school, university or any other educational institution, it becomes Lifelong Learning. The educational environment itself changes essentially. People got the opportunity to "consume" a huge mass of information practically unlimited and free of charge that is consistent with the concept of DIY culture. This process is supported by the development of lots of new educational activities and practices of edutainment [3], combining leisure and training, public lectures. There appear online media libraries, where the various training materials, presentations, lectures, seminars and workshops are aggregated, massive open online courses (MOOC) are actively developing. All these innovations completely correspond to the demands of the modern cultural environment and active citizens, for whom one of the key ambitions is the desire for self-development. While analyzing the educational environment, presented in Moscow now, we can note a general increasing trend of the expansion of "cultural consumption" [4]. At the same time, experts say "in Russia there is a shortage of public space for socializing and lectures is a legitimate, non-politicized way to organize it" [5]. In addition, public lectures help visitors to orient themselves in the increasing flow of information and scientific knowledge. In this context, we see the prospects of socialization of the science and education in the development of the SPL format [6].

Table 1. Trends of modern changes.

Liberalization		The opportunity to "consume" the vast volume of information in unlimited scale and free of charge
Informatization		The development of informational and communicative technologies: study in a comfortable way. Transfer to the digital space, interactive forms of studies.
Personification		To study something that is interesting for me personally
DIY (Do it yourself)		The desire for self-development. The growth of "cultural consumption".

Consumers of SPL form a wide audience of different ages, professions and interests. SPL perform several functions simultaneously: from filling "gaps" in education and expanding horizons of erudition, up to entertainment and even socializing functions.

Basing on the analysis of demand parameters and modern educational space in Russia, the authors of this study developed **the segmentation** of consumers of educational products based on classification according to key values and needs, motives of consumption and indicators of the demand for educational products. For different groups of population there exist different motivations of SPL attendance associated with family status, tasks of professional growth or self-development, correspondingly, five segments of typical consumers of SPL were determined: Schoolchildren-teenagers (prospective students) (age 14-18), Parents (age 30-45), Professionals (age 20-70), Erudites (age 25-70), Seniors (age 70 +). The descriptive analysis of these segments revealed the following characteristics of these segments.

3.2 Segmentation of the customers of SPL

The segment of "**Schoolchildren-teenagers (prospective students)**" - young people at the age of 14-18 years old, with an active lifestyle, applicants in search of professional guidance or wishing to expand their horizons. They attend events that meet their interests, or correspond to the profession they choose. They want to find themselves. Great involvement and activity is typical for them, they are looking for information about events in the Internet and share their impressions of events in the network. Prefer SPL that are available by format and interactive by form.

Key values and needs: self-actualization, self-development, successful self-realization in future interesting profession.

Motives: the choice of the future profession, understanding the spheres of professional interest, preparation for admission to the University.

The demand parameters: interesting and accessible format of events, interactive form, simplified language delivery.

Example of SPL: Lectures in Gorky Park held in English [7].

The segment of **"Parents"** consists of people of 35-45 years old with children, mostly women. They usually have higher education and live in Moscow. The level of income does not matter (they are ready to spend both time and money for their child). They have enough free time and look for the information about events in advance, using the Internet and recommendations.

Categories of consumers within the segment "Parents". SPL for "Parents" can be divided into two categories depending on the format of participation – either with the child or without the child.

- 1 This category involves the participation of the parent with the child.

Parents of this category are the fans of the comprehensive development of their children, they try to motivate the child to attend different events at once. They are very worried about the future of their child and attend events based on the interests of the child, which they consider to be most important. The lectures for this category are usually focused either on the overall development of the child or on supporting the child to navigate and to get involved in their future profession.

SPL for the first category are characterized by a simplified language of presentation materials, can be defined as "by means of simple language about complex phenomena".

Definite positioning "for parents with children" takes place mostly in Museums, the Planetarium, the Zoo, the Experimentarium, and other similar sites. All other sites assume a mixed audience.

Key values and needs: education, open-mindedness, love of the profession.

Motives: self-actualization, to help the child be successful and well educated, to give the child a good education, develop a broad outlook.

The demand parameters: interesting and accessible format of events, interactive form, simplified language delivery.

Examples of SPL: Moscow Planetarium – Saturday lectures for parents with children [8], career guidance lectures at the Goethe Institute [9], the SPL in the framework of the Science Festival in Moscow state University named after M. V. Lomonosov [10].

- 2 This category involves only parents, who attend SPL, devoted to psychological and pedagogical issues of parenting, including proper communications with children, dealing with them, providing support to the child in complicated situations. Positioning: "just for parents".

Key values and needs: harmonious, successful child.

Motives: a desire to help in solving the problems of the child, fostering good relationships with the child,

The parameters of demand: the subject of the lecture and availability (territorial availability, online formats)

Examples of activities: lectures in "The Club of Experts in Education" on child psychology and education and career guidance [11], "Sunshine circle of the family" - Psychological lectures for the parents [12].

A segment of the **"Professionals"**. Members of this segment are driven by professional interest, they are seeking to find new professional contacts and expand level of knowledge. Professionals are selective in the choice of events, they attend the lectures if they see the names that are well-known in their environment.

Key needs and values: professional growth.

Motives: the deepening and broadening of professional knowledge, development of professional contacts.

Categories within the segment of "Professionals" and their insights:

- 1 Students of 18-23 years old, trying to expand and complement their professional knowledge.
- 2 Specialists within their already chosen professional specialization – for improvement of professional knowledge/skills – starting from the position of student, graduate student, young scientist up to the end of a professional career.

- 3 School teachers and teachers of higher and secondary professional educational institutions - the development of new fields of knowledge at the intersection of science
- 4 Representatives of the scientific community, in the framework of SPL can form a platform for discussing the latest scientific results, threats and opportunities associated with technological progress, its impact on society and the civilization as a whole, the creation of motivation to participate in the development of innovative technologies
- 5 Persons deeply interested in the specific fields of science within their individual hobby and people who are able to improve their educational level "zero" and "out of group". For this category the function of SPL is to increase the general educational level of the participants.
- 6 People for whom cultural and educational leisure activities became an integral part of life, who passed by the phase of visiting scientific events as a pastime (it is now fashionable to be educated), who attend lectures out of sincere strong interest, but not in order to upload photos to Instagram or to make a "check-in" to social networks.

The segment "Erudites" – consists of people in the age range from 25 to 70 years with an active life position. They critically assess the level of their knowledge and therefore seek to fill in the gaps that exist. They want to learn something completely new (not from their field of professional knowledge), but also systematically broaden their horizons. Their key characteristics are thinking, reflex and they are in many respects perfectionists. People belonging to the "Erudite" segment do not just absorb new knowledge, they analyze incoming information, compare it with the available knowledge, question it, check it in practice and, having made sure of its truth, can use it in practice. A typical representative of a segment does not just understand and remember new knowledge, but also creatively comprehends, accepts and applies it in the realities of his life.

Key needs and values: self-development, self-realization, the need for systematic knowledge from different fields of science.

Motivation: broadening of the horizon, general development, elimination of gaps in knowledge (pleasant communication with knowledgeable people as a bonus when visiting SPL).

SPL examples: «Oriental classes» Set of lectures provided by the Hermitage Museum, «Live light. Research on luminescence» - Set of lectures provided by MIPT (state university). «Secrets of the Arctic» Darwin Museum, Moscow.

Segment «Seniors» - people aged 70 and older with higher education and / or academic degrees, representatives of intellectual work (now retired), mainly live in the center of Moscow.

Key needs and values: constant self-development and "brain-charging"; they are tolerant and appreciate the pluralism of opinions, are respectful to the younger generation, are not aggressive, are afraid to become uninteresting and a burden to their family, provide everything necessary for themselves, try to live interesting life, monitor their health and appearance. Some people from this segment continue to work partly in their profession, for example, tutoring, translating books from foreign languages. Being active and not indifferent people, they can act as opinion leaders among people close to them. They readily share the information they have and try to bring their spouses, friends, neighbors (including other age groups) into lectures.

Motivation. Socialization for this segment is very important. Ask the lecturer, communicate with other listeners, including with the youth - one of the important reasons for attending the event. Also, a trip to the lecture obliges Seniors to carefully approach the appearance: pick up clothes, do a hairdo. We can say that a lecture tour for this segment of intellectuals is an alternative to watching TV.

Limits of demand. Since age does impose physical limitations, when choosing an event for Seniors it is important that the site is close to their home and can be reached on foot or by public transport (bus / trolleybus). It is worth noting that not all representatives of this segment are active users of the Internet. Many of the respondents learn information about the lecture directly from the providers (via phone calls, information booklets, leaflets, posters on stands). In this regard, it is important for the lecture providers to use "classical promotion channels", so that the Seniors segment has the opportunity to access information. It should be noted and the thematic selectivity of the Seniors. As a rule, they attend lectures whose subjects, to a greater or lesser extent, are close to them, are of interest, and they can understand it. One of the authors saw representatives of the Seniors at lectures on cinema, poetry, history and art.

This group is a minority in the total number of visitors, but, in any case, given the social importance, it is impossible to ignore this segment.

3.3 Basic needs and motivation of the customers of SPL

To determine the basic needs and motivations that encourage people to attend SPL, as well as parameters driven demand, the authors of the study conducted an electronic survey. The developed questionnaire was placed on various sites in the Internet, including users of social networks Facebook and VKontakte (Russian social network). In the survey, random respondents took part. The total number of people surveyed is 102 people. It is worth taking into account the fact that the data obtained cannot be called strictly representative, since the survey covered more segments of "Erudits" and "Professionals" who are active users of university pages on social networks. However, the results of this survey provided additional guidance in analyzing the educational needs of the listeners. The questionnaire included 6 questions. Respondents were asked to choose one answer for each question.

The survey results showed high awareness of such a format of events as popular science lectures (82% of respondents). At the same time, 11% attend them regularly, 42% visited a couple of times, 43% never visited, but find this format interesting and only 4% expressed complete disinterest in such events. These results indicate a low involvement on the one hand and a significant hidden demand for SPL educational products on the other hand. Respondents were also asked what were the goals of attending these lectures. 32% of respondents answered that the main goal is "to learn something new, useful for professional growth", 62% - "broadening their horizons, erudition", 3% - "to communicate with interesting people", only 3% - "it's interesting to spend the evening". These results should stimulate work on improving the form of presentation, creating "live" and exciting educational products.

Further, respondents were asked to note the main criteria for choosing SPL. 39% of respondents answered that the decisive factor in choosing SPL is the personality of the lecturer, 60% - the topic of the lecture. Only 1% said that the key factor is free or low price. The organization of the responsible and venue of the SPL is of decisive importance. This allows, in particular, to assume the existence of a low entry threshold on an important characteristic such as the provider's brand.

Preferences on the subject of lectures are very diverse. Choosing the subject of SPL, 25% of respondents noted that lectures on art and architecture are preferable for them, 27% - on psychology, 16% are interested in natural sciences, 9% - philosophy and political science, 13% - history, other - 10%. For the providers of lectures, this opens up broad prospects for expanding and diversifying the subjects to attract listeners.

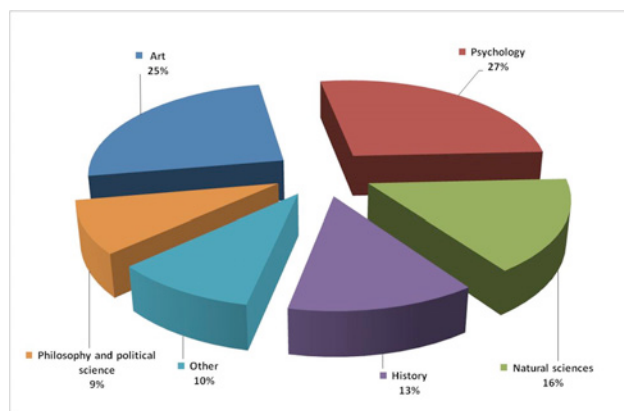


Figure 1. Priority subjects of social educational products.
Answers to the question – "What subject of the SPL is most interesting for you?"

The question was also asked whether the respondents are ready to pay for participating in the lecture. 33% of respondents are convinced that SPL should be free, 16% are willing to pay from 50 to 300 Russian rubles (\$1 is about 56 RUR), from 301 to 500 rubles - 25%, from 501 to 1000 rubles - 14%, are ready to pay more than 1000 rubles - 12% of respondents. Clearly, the results refer to the ability of Moscow residents to pay for lectures, but in most other regions of Russia the threshold level of price sensitivity will be much higher, i.e. there is higher proportion of those who are not ready to pay for the

lecture. Based on the analysis of survey data, it can be concluded that the format of scientific and educational lectures has a certain development potential both from the point of attracting potential participants (40% of the respondents answered "I have not been, but I find it interesting"), and from the perspective of keeping those who already visited these events a couple of times.

3.4 Research of providers and sites of scientific and educational products, available to a wide range of people in Moscow

SPL is a fairly common phenomenon in Moscow. According to information portals Afisha, Yandex, 2do2go every day up to 100 public educational events take place here [13].

According to the Harvard Business Review, there are 30 large providers of SPL in the Russian capital [14]. In order to systematize and more clearly understand what are the main providers of this educational market (platforms and formats), we conducted an analysis of the competitive environment. Initiators (providers) of public lectures are usually academic organizations and communities, public (commercial and non-profit) organizations and communities, as well as government organizations.

Providers of SPL can be divided to those organizations provide only face to face lecturing without broadcasting to the internet and Internet sites with education materials, portals and Youtube. There are also mixed format, for example online broadcasted lecture then is available at Youtube.

The authors identified 6 major categories of SPL organizers (providers):

1. Universities and other higher educational institutions
2. Research Institutions
3. Educational and Research Funds
4. Museums
5. Libraries and scientific and cultural centers
6. New formats for lectures and educational projects

Each category of initiators (event providers) was analyzed on 8 parameters:

1. The market entity (SPL provider), including its link to the site
2. Themes
3. Lecturers
4. Payment
5. SPL forms offered by this provider (online, offline)
6. Frequency of activities
7. Target Audience and Positioning
8. Promotion, including representation in social networks (indicating the number of subscribers).

3.4.1 Universities as initiators and sites for conducting popular science lectures (SPL)

According to the government portal there are 1336 universities in Russia. Of these, 138 universities are registered and operate in Moscow. For the purposes of the research, leading universities were selected from various independent ratings (federal portal "Russian education", rating agency "Expert RA", publishing house "Kommersant"). The ratings primarily take into account the mass and popularity of the SPL. The most common format among universities is open lectures, conducted on an irregular and free of charge basis. As a rule, every universities department or even university chair arrange this kind of events. The main tool for promoting such a format is the site of the university (department). In

most cases, open lecture events are aimed to a sufficiently wide audience (from students and graduates to researchers) and do not have a clear positioning.

3.4.2 Research institutions

Research Institute or Scientific Research Institute (NII in Russian) is a state funded organizations. About 1000 scientific institutes and centers now operate in Russia, most of them are subdivisions of the Russian Academy of Sciences (RAS). Almost every one of them hosts various public events: scientific seminars, conferences, etc. Also open and popular science lectures can be conducted. Scientific institutions focus on topics related primarily to the profile of the institute itself. Almost always lectures are organized by the staff of the Institute itself. Some scientific institutes not only conduct off-line lectures, but also upload video lectures to their site, less often - on Youtube and other sites.

3.4.3 Educational and Research Funds

The goals of Educational and Research Funds are financial and organizational support of academic and applied scientific research, training of scientific personnel, development of scientific teams and think tanks. To date, there are about 70 scientific foundations and organizations in Russia that can be equated with them. But not everyone conducts popular science lectures [15].

3.4.4 Museums as SPL providers

Recently, we have seen a boom in the development of state, public and private museums. At the moment only in Moscow there are more than 400 museums [16]. Museums with new energy began to develop new forms of work with visitors, including educational services. And visiting museums has become an increasingly popular form of leisure. According to the Ministry of Culture of the Russian Federation, Russian state museums in total for 2016 visited about 123 million of persons [17], and according to the information center of the Moscow government, the number of visitors to Moscow museums increased by 40% [18]. This growth is associated with several factors, including the popularization of science and new opportunities that make museums more interactive and interesting. In the course of our research, leading information portals (Afisha, Yandex, Mos.ru, kudago.ru, vmusee.ru, 2do2go.ru, aa-a-ah.ru, etc.) were analyzed [19]. A list of museums conducting popular science lectures has been compiled. Four subgroups are distinguished: art, history, technical and natural science [20]. SPL is a fairly popular format for the work of museums with audiences. They can be held in the format of long sets of lectures (on subscription), in the form of episodic public lectures, as well as "seasonal" cycles. Lectures can be provided in different formats: from interactive lectures for children (for example, in the Experimentarium) to highly specialized lectures for "advanced" participants (for example, in the Moscow Planetarium). Weekend lectures have become a popular format and are already a traditional form of family leisure. It is important to note that these museums not only conduct face studies of the lecture, but also upload video lectures to their site, Youtube and other sites. This allowed them to actually step over the physical boundaries of the museum, striving to realize the idea of open education.

3.4.5 Libraries as educational sites and SPL providers

Currently, there are about 1600 libraries in Moscow, including 7 libraries of federal subordination, 441 libraries of city and district significance which are reporting to the Department of Culture of Moscow (148 children's, 7 youth, 79 family reading, 207 adults). There are also over 550 university libraries, 528 libraries at primary and secondary schools and colleges. In addition, there are also departmental, public and private libraries [21]. To attract a large number of people interested in obtaining knowledge, libraries conduct lectures and actively promote their activities on the Internet.

3.4.6 New formats for lectures and educational projects

The methodology of analysis and selection criteria for leading research and educational projects on the Internet:

- 1 On the basis of the study of the resources <https://cyberleninka.ru/project>, <https://thequestion.ru> and others, 18 scientific and educational projects on the Internet have been selected that have pages of the "Lectures" and "Courses"
- 2 The main parameter of the competition on the Internet is user traffic. The traffic to selected popular scientific resources was analyzed using the SimilarWeb

- 3 The leading resources by the number of visitors were revealed. They include 6 resources that received more than 2 million visitors for the period from 15.03 to 15.05.2017, and the project "Kurilka Gutenberg", the leading active lecture hall: January-May - 80 events in different cities of Russia, which visited 12000 people.

With the data from SimilarWeb [22] the attendance (traffic) of popular scientific resources on the Internet for the period March, 15 – May, 15, 2017 was analyzed. The Internet resource, which represents the television format of an educational project, was not included in the analysis.

As the study showed, almost all socially significant scientific and educational projects in Russia are promoted almost without both contextual and media advertising on the Internet. All projects are well known: the share of direct calls (the user types an address in a browser line or has a site in bookmarks) to sites is great, as well as the share of branded traffic from search engines (the user enters the name of the project / site in the search string). A high proportion of traffic from social networks to sites of scientific and educational projects is recorded. The distinctive features of the new formats of educational projects have the following characteristics:

- New formats of lecture education projects - projects that rely on advancement on the Internet.
- Project features-commercial and non-commercial projects, usually combining a lecture format with a variety of scientific, educational, socio-political and cultural content
- Research and educational projects on the Internet, developing lecture formats, use the following strategies:
- Develop their own face to face lectures (Polit.ru, "Kurilka Gutenberg", PostScience, Elementy.ru);
- Place independently filmed video lectures for their resource (Arzamas)
- Collect and place video from other lecture sites ('Theories and practice', Elementy.ru)

Some of the leading resources independently organize face-to-face lectures and their videotaping (Polit.ru, 'Kurilka Gutenberg'), the part represents only the library of video lectures (Arzamas, PostNauka, Kultura.RF).

4 CONCLUSIONS

The study showed that in the Russian educational space among the leading providers exist common approaches to the promotion of socially oriented educational products. They are as following:

- There are event schedule with video trailer, detailed description of the event and bio of the lecturer at the internet site.
- Existence on the site of a library with video lectures structured by the field of science with a user friendly option for searching required lecture;
- Free of charge access to site' materials including video of lectures;
- Free of charge supporting materials of lectures (Arzamas, PostNauka). Others providers have the option of search for similar lectures on their sites);
- No one leading project places advertising on the Internet;
- All resources are promoted primarily through a high level of brand awareness and high reputation. Some of the projects initially started as a groups in social networks ('Kurilka Gutenberg').

The study of the Russian experience of socialization of educational products and public outreach activities shows:

- There is a growing trend of spending more personal money for the non-diploma education, for the human development education or as it sometimes called edutainment (entertainment plus education);
- Each leading provider has own audience for lectures dedicated wide field of knowledge;
- Leading market players have high reputation and strong traffic of their internet sites;

- Open education now is by definition internet oriented education with high level of availability of materials and open access to them.
- Promotion in the major social network in internet now is compulsory form for SPL supply.

In each segment of Lifelong Learning in the field of Science popularization, you can see 2-3 leaders who have a high reputation and actively implement SPL. At the same time they can pay for a provider, as well as free lectures on the broadest topics, most often have a stable audience. These sites combine the following characteristics:

- leaders of opinions in each category are invited to lecture
- availability of a powerful electronic platform
- modern internet site
- use open education advantage providing face to face lectures and internet lectures and materials (online and offlines).

Since open learning is education accessible to all, it is possible to predict the predominant development of Internet formats. It forms the basis for the mass development of Lifelong Learning technologies in the field of Science popularization.

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REFERENCES

- [1] There exist several approaches to classification of science. The authors use the methodology of B.M.Kedrov <https://ru.wikipedia.org/wiki/%D0%9D%D0%B0%D1%83%D0%BA%D0%B0>
- [2] Klaus Shvub. The fourth industrial revolution. M., Eksmo, 2016.
- [3] The word is a combination of “education” and “entertainment” and means education through entertainment.
- [4] Rossiyskaya gazeta. 27.03.2017 <https://rg.ru/2017/03/27/reg-cfo/stala-izvestna-statistika-poseshcheniia-moskvichami-muzeev-i-teatrov.html>
- [5] <http://hbr-russia.ru/biznes-i-obshchestvo/fenomeny/a17232/>
- [6] <https://www.gazeta.ru/social/2016/12/29/10456061.shtml#page2>
- [7] <http://park-gorkogo.com/events/22>
- [8] <http://planetarium-moscow.ru/about/news/detail.php?ID=9190>,
<http://kultura.mos.ru/presscenter/news/detail/5253151.html>
- [9] <https://www.goethe.de/ins/ru/ru/spr/eng/kin/kin/ueb.html>
- [10] <http://www.festivalnauki.ru/>
- [11] <http://eduexperts.ru/>
- [12] <https://smartafisha.ru/msk/event/solnechnyy-krug-semi-psihologicheskiiy-lektoriy-dlya-roditeley>
- [13] <http://hbr-russia.ru/biznes-i-obshchestvo/fenomeny/a17232/>
- [14] https://www.dp.ru/a/2017/01/19/Umnie_v_gorode
- [15] <http://elementy.ru/catalog/g12/fondy>
- [16] <http://www.museum.ru/mus/location.asp?map=ru®ion=2&From=0>
- [17] https://artinvestment.ru/invest/analytics/20170410_museum_visitors_in_russia_stats.html
- [18] <http://mosday.ru/news/item.php?300726>

- [19] <https://afisha.yandex.ru/moscow/lectures>, <https://www.mos.ru/calendar/event/32576088/>, <https://kudago.com/msk/knowledge/?type=4>, <http://vmusee.ru/2017/03/23/sohranyaya-i-zashhishhaya-publichnye-lektsii/>, <https://www.2do2go.ru/msk/lekicii>, <https://a-a-ah.ru/events-lectures-in-moscow>
- [20] It is worth noting that there are many approaches to the classification of museums. The proposed classification seemed to the authors the most successful. The authors omitted some types of museums (for example, memorial, pedagogical, etc., since no information was found on the conduct of public lectures on their basis). The authors used the approaches to the classification of museums listed in the Russian Museum Encyclopedia http://www.museum.ru/rme/sci_profil.asp
- [21] In Russian: «Московские библиотеки перейдут на новый, удлинённый график работы». <https://www.mos.ru/news/item/6297073/>
- [22] <https://pro.similarweb.com>